CHRONICLE INVESTIGATION

Left in the dirt

As tons of toxic soil piled up around them, San Francisco assured the cops at Hunters Point shipyard they were safe. But the city never knew, and still doesn't.

By Jason Fagone and Cynthia Dizikes

Aerial photo of the former Hunters Point Naval Shipyard showing buildings on Parcel G (foreground), the police office known as Building 606 (upper right, with the slightly peaked roof and white exhaust stacks), and Radiological Screening Yard 2 (to the left of Building 606, across the street). Carlos Avila Gonzalez / The Chronicle

Lewis Fong didn't know what was happening next to his office building in summer 2007, only that it involved a lot of dirt.

About the series

> Amid charges of fraud and mismanagement in the cleanup of San Francisco's toxic shipyard, The Chronicle is digging into public records and interviewing people who worked there, trying to determine what happened and why. Read more of our Dangerous Ground reporting here.

"Just dirt," Fong recalled recently. "Mounds and mounds." The dirt sat in a giant yard surrounded by a chain-link fence. Trucks kept dumping soil inside, spewing clouds of dust, "truck after truck."

At the time, Fong, a San Francisco police officer, was one of more than 100 police employees stationed at Building 606, a warehouse in the former Hunters Point Naval Shipyard. The city has leased Building 606 from the Navy since 1997, using it as a training base and headquarters for units that require a lot of space (SWAT, K-9, the crime lab). Although the shipyard is a Superfund site, contaminated with radioactive materials and other toxins, the city has always assured police it is safe to work there.

Fong trusted the city. In 2007, he'd been accepted into the Honda Unit, a prestigious squad of cops on light motorcycles, and when his training began at Building 606, he was more worried about falling off a bike than breathing dust from the mysterious yard next door. "You're just stressed out from being trained, so you don't notice what's out there," he said.

Soil covered under tarps after processing at a radiological screening yard at Hunters Point Naval Shipyard on Jan. 3, 2007. | PAUL SAKUMA / AP

Fong and the other cops may not have understood what was going on next to their office, but the city did. The area was a "radiological screening yard," one of the most hazardous locations on any Superfund site — a place that processes large amounts of contaminated soil.

And it was managed by Tetra Tech, the Navy contractor now at the center of a ballooning scandal over falsified and suspect shipyard cleanup records.

Officials with the city health department had known about the yard for some time, according to emails and memos recently obtained by The Chronicle through a public records request. About two months before the yard opened, an industrial hygienist with the health department questioned whether the yard would pose a

danger to the employees in Building 606, potentially exposing them to unsafe levels of radioactivity.

"What would happen if we found an exposure?" Karen Heckman wrote in an email to her boss on May 24, 2007.

The danger was dust. Radioactive dust.

The yard was a place where Tetra Tech brought soil from tainted areas of the shipyard, dumped it on "pads" and examined it for long-lasting radioactive elements dating to the Cold War. Some of the radioactive substances were birthed by a pair of plutonium-bomb tests in 1946 that went horribly awry, contaminating hundreds of gathered ships. Jonathan Weisgall, who wrote the definitive book about those tests, called it "the world's first nuclear accident." Seventy of those highly radioactive ships then carried that disaster back to Hunters Point, spreading unfissioned particles of the bomb core itself (plutonium-239) as well as hazardous substances forged in the sun-like fires of the explosions (strontium-90, cesium-137).

Navy crews swab the deck of the Prinz Eugen in an attempt to reduce radiation levels after "Shot Baker," the July 25, 1946 underwater detonation of a plutonium bomb at Bikini Atoll in the Marshall Islands. Dozens of vessels were hopelessly contaminated by gigantic radioactive waves and a curtain of poisoned mist. | U.S. Naval Institute 1946

The soil that now was being piled next to the police might have contained any of these substances, as well as radium-226, which the Navy once used in large quantities to make signage glow in the dark. The risk to city employees at Building 606 was real — and invisible. Plutonium emits alpha particles, which are easily stopped by a piece of paper or the skin. But just one-millionth of an ounce of plutonium-239 breathed into the lungs will cause cancer with almost 100 percent certainty, according to a 1992 study by a group of international physicians and energy experts. Cesium-137 and strontium-90 are also dangerous if inhaled or ingested, able to irradiate the body from the inside.

With the shipyard's brisk winds, radioactive particles in the soil were likely to go airborne, and if anyone inhaled dangerous levels of radioactivity, they could get cancer years later and die. Recognizing this risk, the health department told police commanders it would monitor the air next to Building 606.

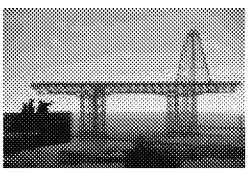
But records show that the health department wasn't capable of verifying the cops' safety. The agency didn't gather air data of its own, and though it asked Tetra Tech and the Navy to provide air-monitoring reports, these requests were deflected or ignored.

Tetra Tech belatedly gave the city a single snapshot of air samples for a six-week period in the summer of 2007. The firm never provided any information after that.

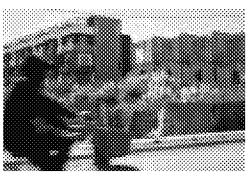
Even if the company had sent the city more data, it wouldn't have protected the police, because there was a more fundamental problem. According to an analysis of public records and an expert consulted by The Chronicle, the air safety standards at the yard — set by the Navy and approved by the U.S. Environmental Protection Agency — were profoundly inadequate, allowing police and members of the public to breathe potentially dangerous levels of airborne radioactive particles.

MORE: DANGEROUS GROUND

Navy used obsolete safety standards in shipyard cleanup,



US plans to sue Hunters Point shipyard contractor accused of



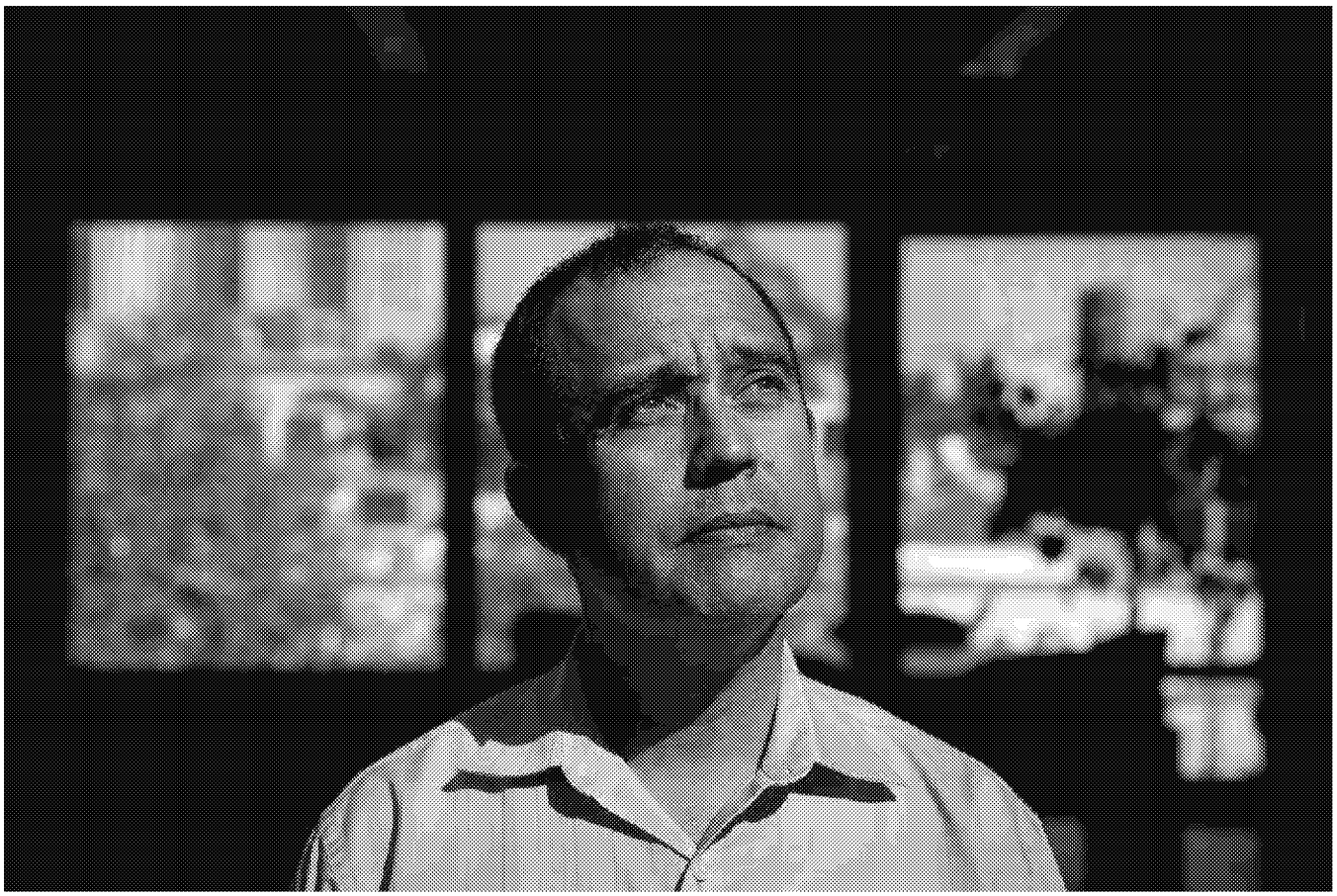
Radioactive find raises doubts about safety of shipyard home site

The radiological screening yard next to the police closed sometime around 2012, but two smaller screening yards continued to operate nearby for several years. The city didn't monitor those, either. As a result, for all the years these yards were running, the city had no way of determining what radioactive particles might have been in the air near Building 606, or at what levels. And according to experts and shipyard whistle-blowers, this means that police may have been exposed to dangerous levels of radioactivity.

The employees in Building 606 never knew. No one ever told them that hazardous radiological work was going on right next door.

"All that time I was out there, we didn't hear shit," said Richard Tong, a former Honda Unit officer at Building 606.

"If these allegations are true, we would be deeply troubled about the conditions to which police officers, including myself, were exposed, and an apparent total disregard by city officials for their safety," said Tony Montoya, president of the Police Officers Association.



Tony Montoya, president of the S.F. Police Officers Association, was diagnosed with a brain tumor two years ago after working at Building 606. | Gabrielle Lurie / The Chronicle

Montoya, 51, was stationed at 606 as a K-9 officer from 2005 to 2008. Eight years later, doctors diagnosed him with a cancerous brain tumor that required emergency surgery. "It was like a kick to the gut," he said. Like other officers who

have become sick since working at the shipyard, Montoya now wonders if there's a connection.

"It's anybody's guess," he said.

Tony Montoya, president of the S.F. police union, shows the scar on his head and neck from the brain surgery after he was diagnosed with a tumor. | Gabrielle Lurie / The Chronicle

The poor or nonexistent monitoring of air quality at the shipyard isn't just an issue for city employees who work there. In the neighboring Bayview-Hunters Point community, where a child can expect to live an average of 14 years less than a child in well-off Russian Hill, residents have complained for years about dust that blows from the shipyard. The same potentially toxic air that police breathed for years could have affected those neighbors too, as well as artists who have long rented studios at the shipyard.

And the same flawed air-quality rules from years ago are still in effect at the shipyard today, affecting the air that San Francisco residents are breathing now and will be breathing for years to come.

In response to questions from The Chronicle, government agencies involved in the shipyard cleanup insisted that police and members of the public are protected by Navy procedures for controlling dust.

Today, the city still leases Building 606; the police department's crime lab remains there, along with 40 public employees. A previous Chronicle report outlined other potential health risks at the building, including high levels of lead in the tap water and radioactivity in the surrounding soil. In response to that story, the city said it would perform tests of the tap water, air and soil; results are expected later this year.

In the meantime, the health department, which is supposed to serve as a watchdog and advocate for the public at the shipyard, continues to say that people who work at the building and members of the public are safe. But the new records call the department's credibility into question.

Throughout the multidecade history of the cleanup, the department has told many groups with a stake in the shipyard not to worry about toxic exposure: The Bayview-Hunters Point community. Artists. Visitors. Homeowners. Supervisors. Mayors. "To my knowledge there has never been a case where we felt that health and public safety was at risk," the department's point person on the cleanup, Amy Brownell, told city supervisors in May.

But in the case of Building 606, at least, this is a statement of faith, not science. A true scientific analysis would require data that the city never gathered.

Tamara,

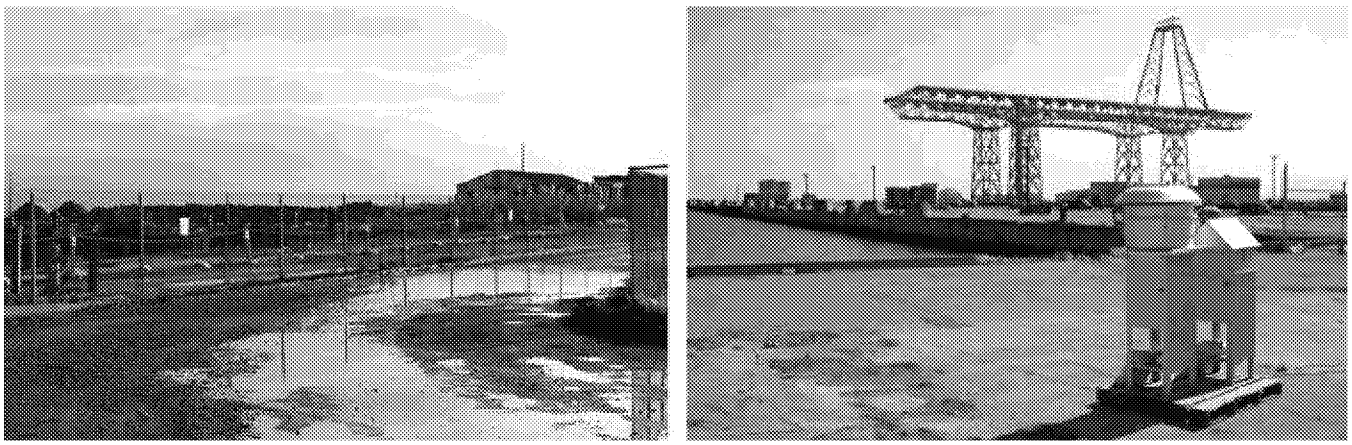
You may want to have Mike continue to pursue the request for data. I've never heard anything back from Bill. I'll mention this to him at the meeting today, but unless there gets raised to level of Ralph's attention, again, I don't think Bill will respond.

-Karen

"I've never heard anything back from Bill," Karen Heckman wrote.

Bill was Bill Dougherty, Tetra Tech's top official at the shipyard. Throughout 2007, Heckman repeatedly tried to get information from him about any airborne radioactivity next to the police building.

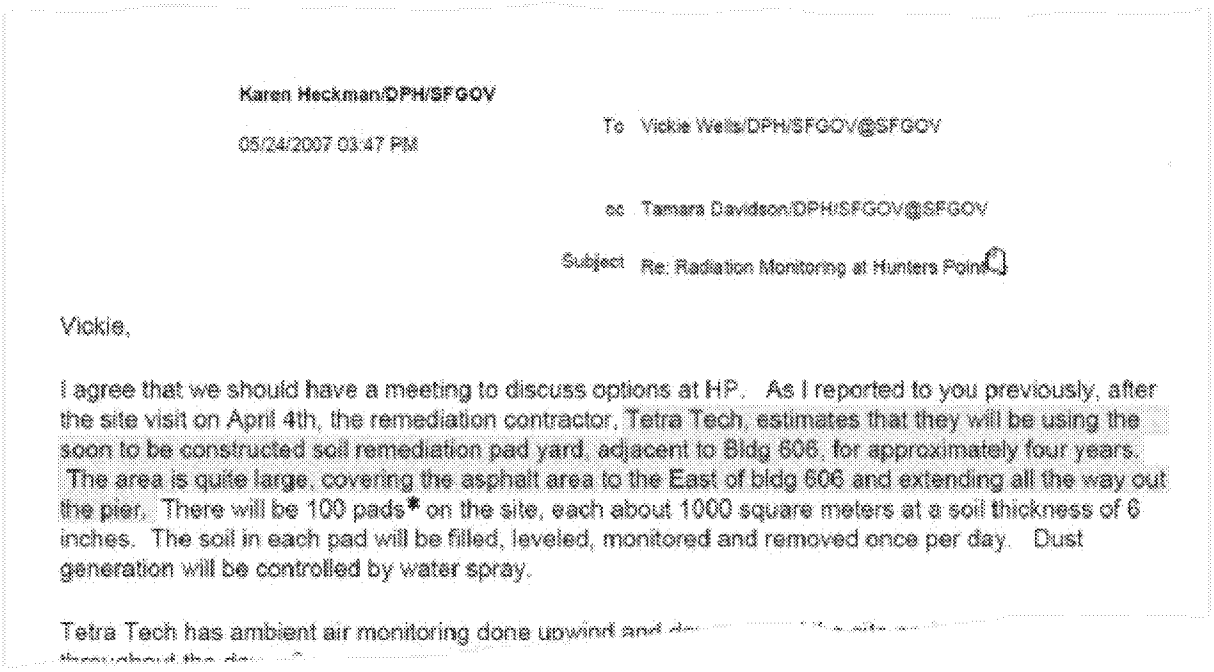
She needed it to do her job. Ever since police units were transferred to the shipyard in 1997, the health department has played a key role in monitoring their safety. In April 2007, Heckman's superiors asked her to study plans for Radiological Screening Yard 2 (RSY2), the new soil-processing facility that was scheduled to begin operating next to Building 606 in July.



Left: Flooding of areas surrounding RSY2, the radiological screening yard next to the police building. Right: An air monitoring station near the south pier of the Hunters Point Shipyard, October 7, 2010. | LF: Bert Bowers RT: Courtesy U.S. Navy / Bert Bowers And U.S. Navy

Heckman met with Dougherty, who explained the yard's dimensions and function. In an email, Heckman relayed the information to her bosses.

The yard would be "quite large," she wrote, "covering the asphalt area to the East of bldg 606 and extending all the way out the pier" — a 13-acre footprint. Tetra Tech would eventually install 37 soil pads there, each 1,000 square meters, covering about 9 acres, an area more than three times the size of the field at AT&T Park.



Karen Heckman/DPH/SFGOV

05/24/2007 03:47 PM

To Vickie Wells/DPH/SFGOV@SFGOV

cc Tamara Davidson/DPH/SFGOV@SFGOV

Subject Re: Radiation Monitoring at Hunters Point

Vickie,

I agree that we should have a meeting to discuss options at HP. As I reported to you previously, after the site visit on April 4th, the remediation contractor, Tetra Tech, estimates that they will be using the soon to be constructed soil remediation pad yard, adjacent to Bldg 606, for approximately four years. The area is quite large, covering the asphalt area to the East of bldg 606 and extending all the way out the pier. There will be 100 pads* on the site, each about 1000 square meters at a soil thickness of 6 inches. The soil in each pad will be filled, leveled, monitored and removed once per day. Dust generation will be controlled by water spray.

Tetra Tech has ambient air monitoring done upwind and

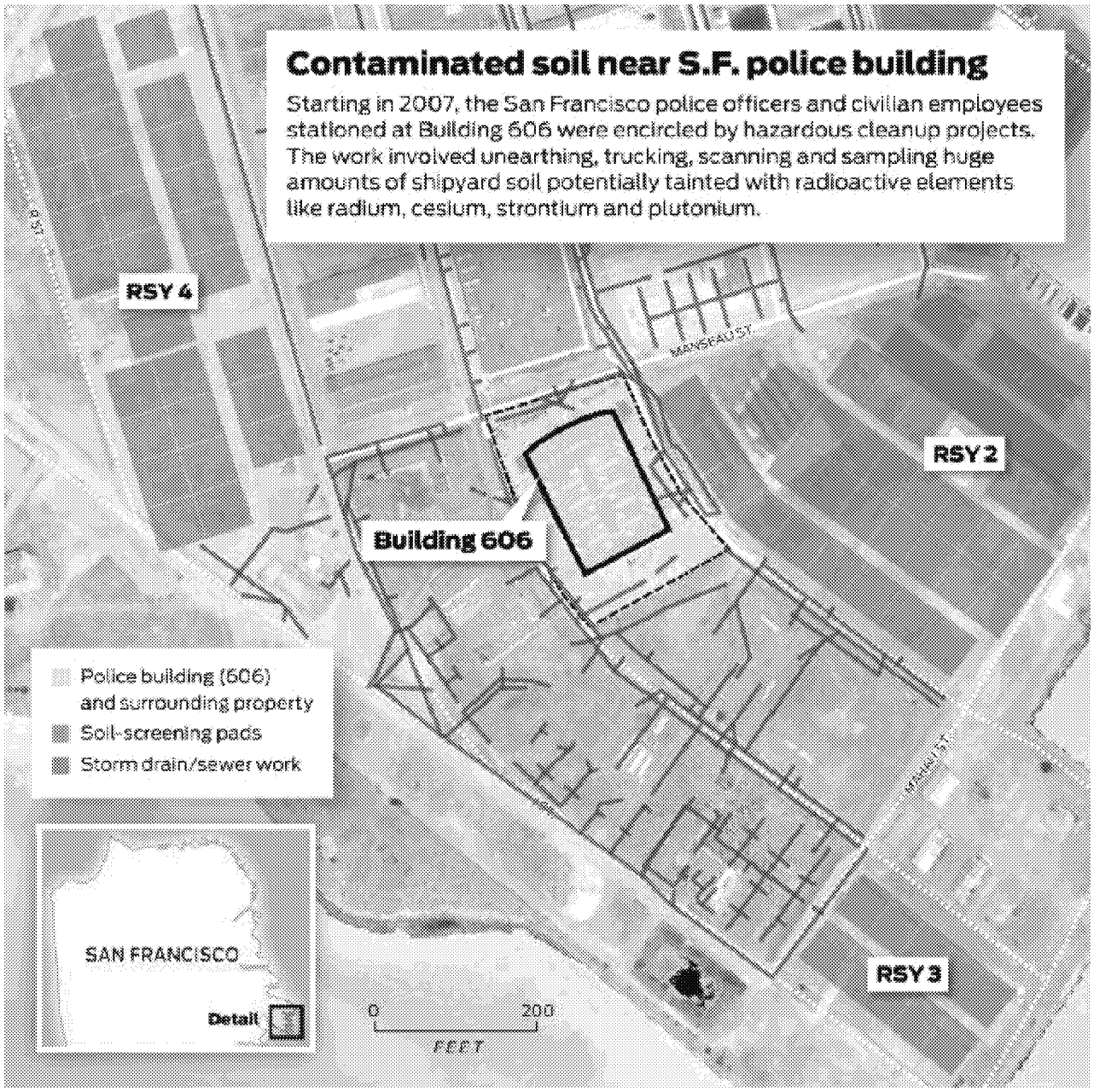
* "100 pads" was an error; the yard included 37 soil pads.

Dougherty also told Heckman he thought "the most contaminated areas" at the shipyard "have yet to be excavated and material from those excavations would be directed to the new pad yard," she wrote.

Indeed, over the next five years, Navy records show, Tetra Tech would bring more than 6,000 truckloads of soil there from some of the most radioactive portions of Hunters Point.

Heckman's email also noted that Tetra Tech planned to dig trenches around Building 606, pulling up old, contaminated storm drains and checking them for radioactivity. The potentially tainted soil from these trenches also would be screened at RSY2.

"At some point," Heckman pointed out, "building 606 will be surrounded by the remediation activity on three sides of the building."



Source: U.S. Navy

Tam Duong Jr. / The Chronicle

Her email ended with a list of questions for her supervisors, one asking point-blank: "Should the Police continue to operate Building 606 during the activity?"

Contacted by The Chronicle, health department spokeswoman Rachael Kagan described Heckman's 2007 email as a standard form of due diligence, "part of her role as an SFDPH industrial hygienist." Though Heckman still works for the department, Kagan would not make her available for an interview. Kagan added that monitoring the soil yards was never the health department's job, and that it has never had "any regulatory authority over the cleanup process itself."

But the department wields significant formal and informal power at the shipyard. Its Occupational Safety and Health section is charged with keeping city workers safe by eliminating "employee exposures to avoidable hazards." Hygienists and environmental engineers can coordinate air or water monitoring. They often attend community meetings about the shipyard and Board of Supervisors hearings, explaining the convoluted cleanup process. And behind the scenes, department officials talk constantly with the Navy and other agencies involved with the shipyard, advocating "the best possible approaches to ensure community health and safety," Kagan said.

In short, the department's staffers are supposed to be the city's experts on health issues. So it's not surprising that in 2007 the department played a crucial role in deciding what to do about the radiation work around Building 606.

First of all, someone at the city concluded that the police didn't need to be relocated. It's unclear who made that decision. But records show that in spring 2007 the health department went looking for a way to track the air quality next to Building 606, to make sure police weren't breathing harmful radioactive dust.

The department began by asking Tetra Tech to provide data from its air monitors at the yard. On May 31, 2007, Heckman sent Dougherty a letter. After a few weeks of silence, he eventually replied that he would forward her request to the Navy, but she didn't hear anything else for a while.

Through his lawyer, Dougherty declined to comment for this story.

Meanwhile, Tetra Tech and the Navy moved forward. On July 19, 2007, the new soil yard lurched to life. A week later, according to a transcript of a community meeting, Dougherty and Navy officials described RSY2 as a boon to the cleanup.

"We're very proud of this," said Laurie Lowman of the Navy's Radiological Affairs Support Office, a unit based in Virginia that makes decisions about radioactive waste disposal at Navy sites.

"It's a beautiful screening yard, and it really increases our capacity significantly," she said. "We are rolling."

Lowman and Dougherty explained that they would control dust at the yard by spraying piles of soil with Rhino Snot, a bright-green fibrous material that forms a crust atop the dirt. They would also spray some areas and roads with water. However, they could spray only so much water, Lowman said, because the soil had to be dry to be screened.

An aerial view of the aircraft carrier Independence at anchor in San Francisco Bay in 1951. Damage from the atomic bomb tests at Bikini Atoll is visible. The ship, eventually scuttled in the waters off the Farallon Islands, was recently located by federal scientists. | Courtesy S.F. Maritime National Park 1951

Navy documents show that in July 2007, during the first week of the yard's operation, Tetra Tech brought 76 truckloads of soil from a single trench in a contaminated area where sailors once sandblasted the hulls of radioactive ships brought from the Bikini Atoll plutonium-bomb tests. Plutonium-239 remains radioactive for hundreds of thousands of years. If the soil brought to RSY2 contained plutonium, it was still emitting radiation — just yards away from the police.

Heckman, though, still couldn't get Dougherty to respond to her requests for RSY2 air samples. So she tried writing directly to the Navy.

"Can you provide the air sampling results, taken at the soil screening area, to me on a weekly basis?" she asked in an email to Ralph Pearce, a Navy project manager.

Pearce directed her back to Tetra Tech: "Please contact Bill Dougherty."

Paul Swiatko (left), Mel Bautista and Richard Tong, who were part of the San Francisco Police Department's tactical division, walk toward Building 606, where they used to work and train. | Lea Suzuki / The Chronicle

New dirt kept arriving at the screening yard almost daily, according to Navy project records. Nine truckloads on Aug. 9. Nineteen truckloads on Aug. 10. Forty truckloads on Aug. 13.

The cops in Building 606 couldn't help but notice. RSY2 was very close, just across a wide street, and the dust from the yard was unavoidable, police said. A few of

them saw the radiation warning signs on the fence, but that wasn't an unusual thing at the shipyard, where cops jogging in shorts and T-shirts would sometimes cross paths with Navy contractors in hazardous material suits.

But the city never told them that the yard had anything to do with radioactivity that could go airborne, police interviewed by The Chronicle said.

"No one explained that, for sure," Fong said.

"I would have headed for the hills," said Montoya, now the head of the police union.

Mark Madsen, then a SWAT Team member, assumed the yard was a construction area of some kind. "After a while, we couldn't really see what was going on back there, because they put up tarps," Madsen said.

The tarps around the fence didn't stop the dust. It coated the cops' cars, motorcycles and clothes; it stuck to the fur of their K-9 dogs. Dirt bike cops remember tasting the grit in their teeth.

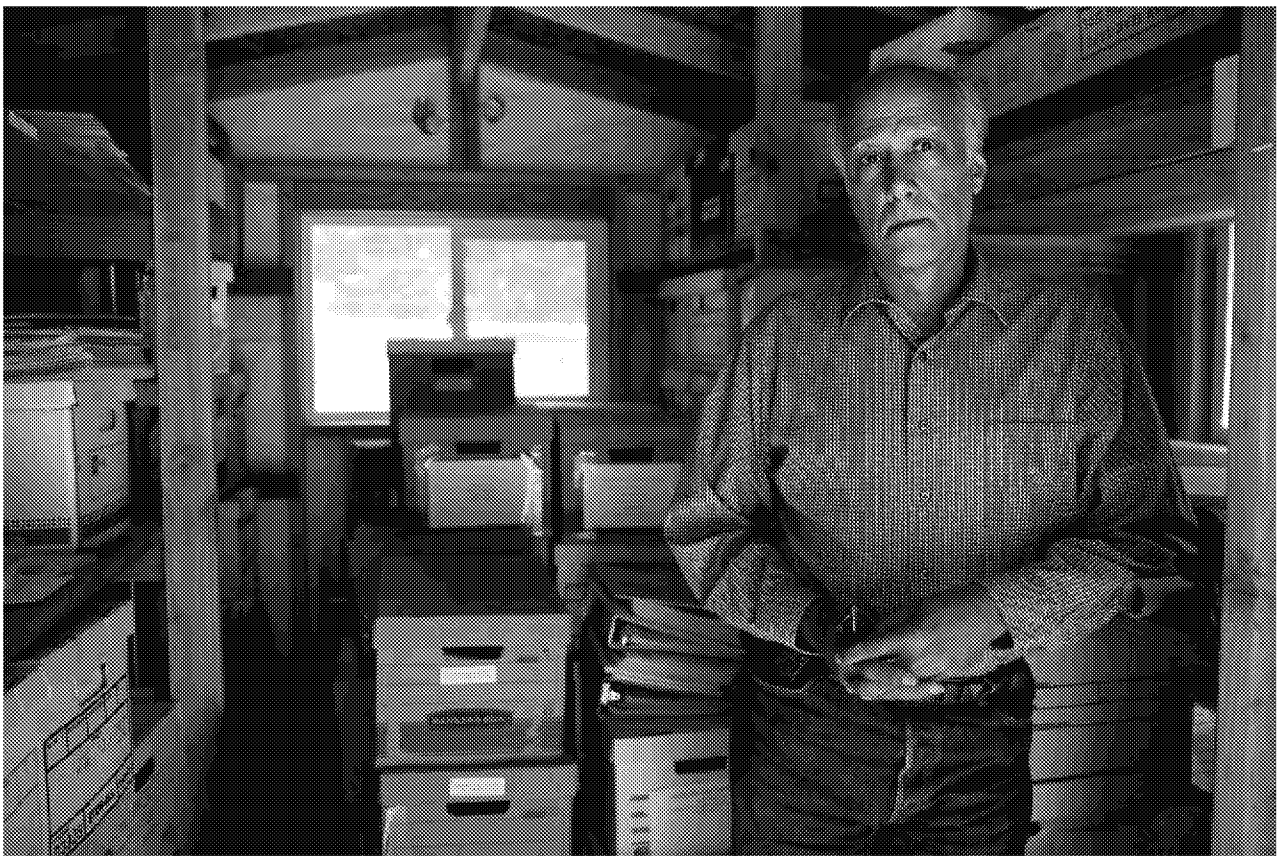
Many cops were worried. They may not have known what RSY2 was, but they knew they were working on a Superfund site with a radioactive history. Some wrote memos to their bosses, arguing it was unsafe for them to stay at Building 606. They were concerned about bringing hazards home to their families. They wanted to know about air testing.

"We're not Rhodes scholars, but the little bells start going off," Montoya said.

Unknown to the police, the health department was still struggling to get air data from RSY2. In late August or early September 2007, after months of delays, Tetra Tech finally sent the city a snapshot of air samples collected between July 19 and

Aug. 30. These data sheets were recently obtained by The Chronicle through its records request to the health department. Each sheet was a confusing grid of numbers and jargon. At the top of one, someone wrote a question that any member of the public might have: "What is this?"

By the end of the month, the health department claimed to have decoded the data. On Sept. 28, 2007, Vickie Wells, then director of Occupational Safety and Health, sent a memo to a deputy police chief, saying the air data showed no elevated levels of radioactivity.



Daniel Hirsch, retired head of the UC Santa Cruz environmental and nuclear policy program, keeps boxes of research material in sheds on his property in Ben Lomond. | Guy Wathen / The Chronicle

She was wrong to give that assurance, according to an academic expert consulted by The Chronicle. Reporters recently shared the data sheets with Daniel Hirsch, retired chair of environmental and nuclear policy at UC Santa Cruz and an expert on Superfund cleanups. Hirsch, who has recently published several reports that are

critical of the shipyard cleanup, said the information was not sufficient to confirm the cops' safety.

"You cannot tell the police based on this that they are OK," Hirsch said. "And frankly, the environmental people at the Department of Public Health should have caught this."

For one thing, the reports appear to show few specific measurements of airborne alpha or beta particles, the types of radioactive substances that pose the most risk if inhaled. In columns labeled "% DAC alpha" and "% DAC beta," the data sheets listed percentages and less-than signs instead of precise values.

More concerning, according to Hirsch, was the reference to "DAC."

DAC stands for Derived Air Concentration, a safety standard used for workers in the nuclear power industry, who are legally allowed to receive higher doses of radiation than the rest of the population — doses linked to significantly increased risks of cancer. According to the EPA's shipyard rules, if the level of airborne contamination at a soil yard is less than 10 percent of the DAC limit, the air is safe for shipyard workers to breathe.

But the EPA's rules are far more rigorous when it comes to protecting the rest of the population. For a cop at a Superfund site — or a crime-lab employee, or a member of the public — the EPA's usual limits are up to 10,000 times stricter than what the agency allows for shipyard workers. While the DAC standard might have made sense for cleanup workers, Hirsch said, it wouldn't have protected anyone else who might have breathed that air.

Asked why the EPA allowed such high limits for airborne contamination next to a busy city office building, agency spokeswoman Soledad Calvino said that dust-

control measures by the Navy and Tetra Tech would have protected the police. She also shared details of a calculation performed by EPA staff, purportedly showing that the air was safe for police to breathe. The EPA performed this calculation recently in response to questions from The Chronicle, not years ago, when the soil yard was operating.

The calculation is based on a string of optimistic assumptions about the wind, the contents of the soil, the management of Tetra Tech's soil yard and the way people at 606 spent their days. For instance, the EPA assumes that the wind mostly blew across RSY2 "in the opposite direction from Building 606," and concludes that police were exposed to air from the yard for just 7.2 minutes per day. The EPA also claims that nearby soil pads processed soil for only 40 days per year. But the wind at Hunters Point is unpredictable, work at the soil yard took place year-round and many cops trained outdoors for hours each day, multiple days per week. Also, the EPA calculation does not account for plutonium-239, a known contaminant at the shipyard that is toxic at lower levels than other radioactive substances.

Regardless of what Tetra Tech's air samples showed in summer 2007, the information the company gave to the city was only a snapshot. And the yard next to the police was in constant flux.

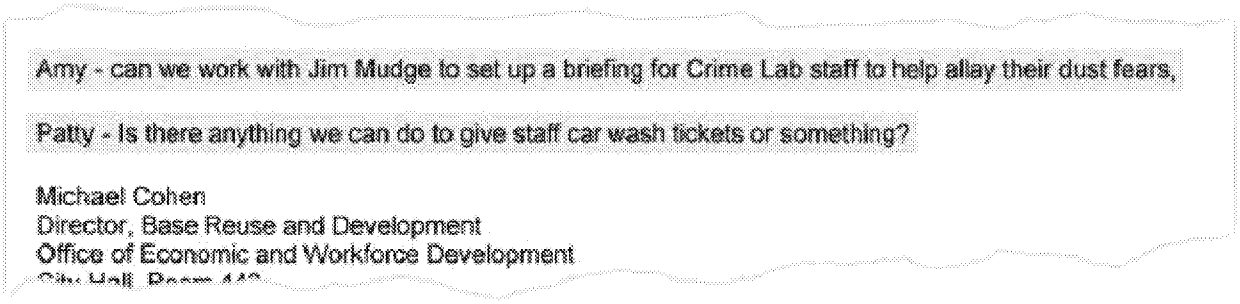
On Oct. 8, 2007, 10 days after the health department's Wells wrote the memo that told the deputy police chief not to worry, 44 new truckloads of potentially contaminated soil were dumped in the yard. The next day, 27 more truckloads arrived.

Operating in the dark, without current radiological data, city leaders kept telling the police they were safe. Hygienists tested the dust inside Building 606 for asbestos and heavy metals and reported nothing concerning. Airborne radioactivity wasn't mentioned.

Former S.F. Mayor and current California governor-elect Gavin Newsom (right) greets community members before a 2005 ceremony in which the Navy transferred 75 acres of the former Hunters Point Naval Shipyard to San Francisco. | Eric Risberg / Associated Press 2005

On Oct. 16, 2007, the manager of the crime lab emailed four city employees, including a top deputy of then-Mayor Newsom, Michael Cohen, the city's chief negotiator on shipyard agreements and other large developments. The crime-lab manager said that vehicles at Building 606 were covered with mud ("the cars are a mess") and asked the city to "bring a knowledgeable scientist out here to speak to us about environmental concerns/risks/exposures."

Cohen replied the same day, copying the health department's Brownell and three others. He suggested the department "set up a briefing for Crime Lab staff to help allay their dust fears." He added, "Is there anything we can do to give staff car wash tickets or something?"


Amy - can we work with Jim Mudge to set up a briefing for Crime Lab staff to help allay their dust fears,

Patty - Is there anything we can do to give staff car wash tickets or something?

Michael Cohen
Director, Base Reuse and Development
Office of Economic and Workforce Development

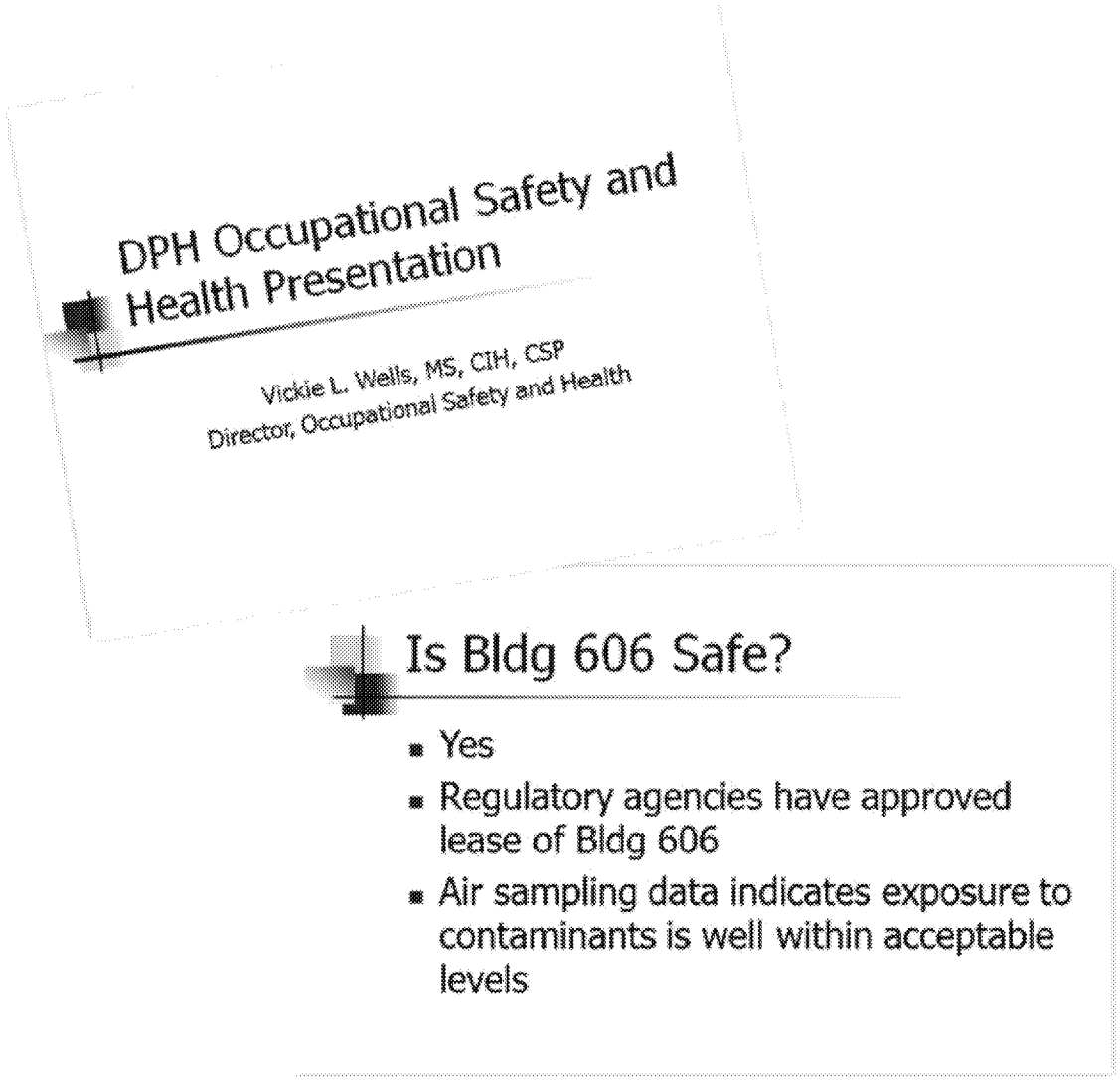
Cohen, now the principal of Strada, a private-equity firm that finances real estate development, told The Chronicle recently that he had "very little direct involvement with building 606." A spokesman for Newsom, who was elected California's governor Tuesday, said he "does not recall a discussion about Building 606."

The day before the Nov. 28 "Informational Meeting" at Building 606, the city still didn't have current air safety data from Tetra Tech. Yet when health department officials visited 606, they told the police that the air they were breathing was definitely safe.

"Air sampling data indicates exposure to contaminants is well within acceptable levels," went a PowerPoint presentation authored by Wells. The talk did not mention radioactivity. Wells declined to comment for this story, and the health department did not make Brownell available for an interview.

"Is Bldg 606 Safe?" read the title of one slide in the presentation.

Wells' answer on the PowerPoint: "Yes."



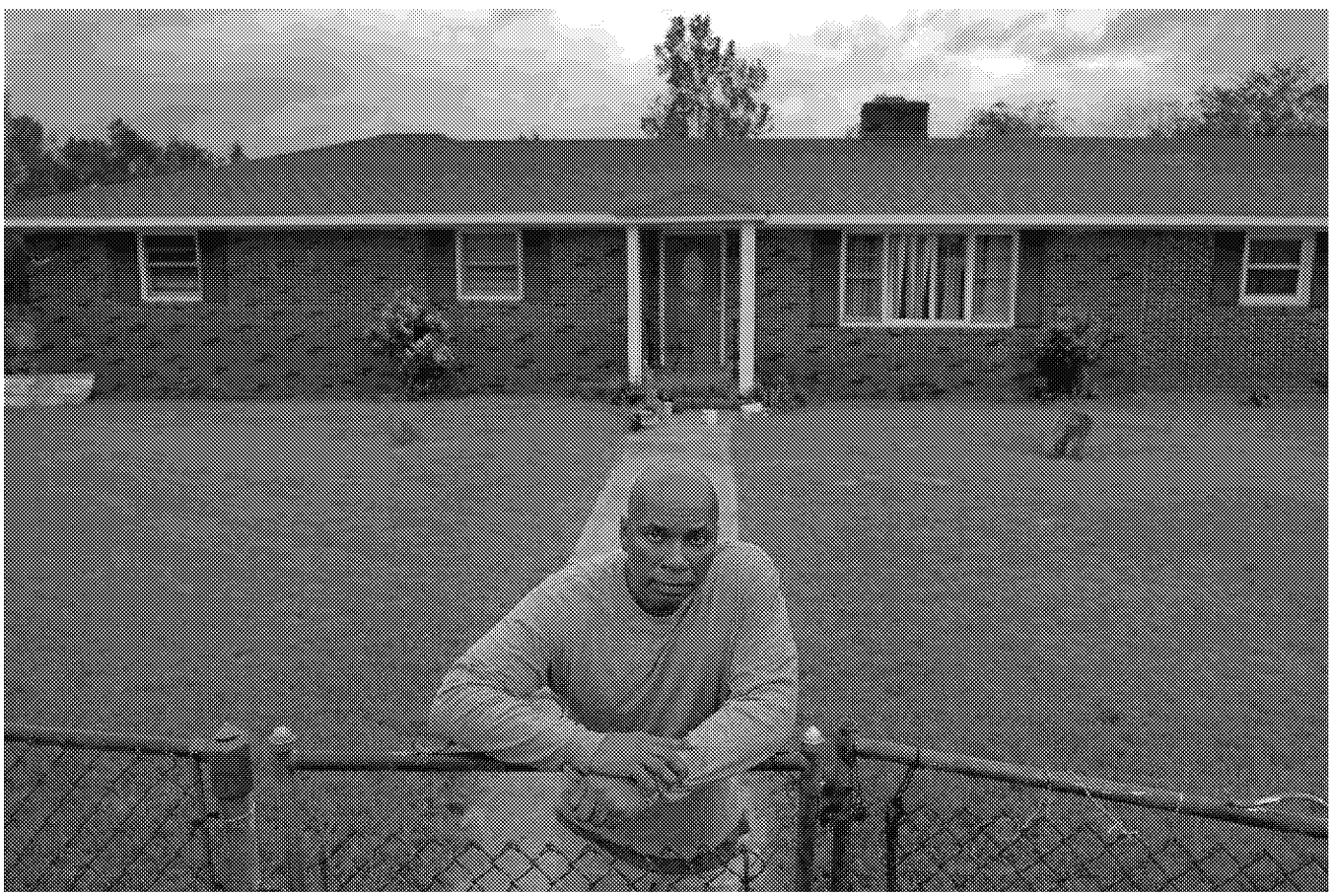
In fact, the cleanup around Building 606 was spiraling out of control, according to former employees of Tetra Tech or its subcontractors, who have said the company repeatedly cut corners and failed to properly remove radioactive waste.

Seven of these people detailed their claims in recently unsealed whistle-blower lawsuits against Tetra Tech and a handful of its subcontractors. Six of the plaintiffs also filed sworn statements last year with the Nuclear Regulatory Commission, the agency that licenses companies like Tetra Tech to perform radiological work.

Tetra Tech has said the whistle-blowers are lying. But some of their claims have already been confirmed by government investigations, and in late October the Department of Justice announced it was joining the three whistle-blower suits against Tetra Tech, a rare move that allows the government to sue the company for fraud.

The whistle-blowers' stories boil down to this: The cleanup wasn't what it seemed. People in charge of the radiation surveys were not qualified to oversee them. People who were supposed to be managing tainted soil were releasing it into the air. Soil samples said to be from one place were actually from elsewhere. Control was an illusion.

The problems extended to areas next to the police building, according to multiple whistle-blowers who have alleged serious safety breaches at RSY2 that could have exposed anyone nearby to radioactivity.



Whistle-blower Archie Jackson, 54, stands in front of his home in Beech Island, S.C. Jackson is a radiation technician who used to work at the Hunters Point shipyard and says the cleanup was marred by incompetence and falsified records. | Gerry Melendez / Special To The Chronicle

The Tetra Tech supervisor in charge at RSY2 didn't seem to know what she was doing, multiple whistle-blowers said. In their sworn declarations and lawsuits, they said the supervisor's inexperience had a direct impact on RSY2, turning the soil yard next to the police into a chaotic and potentially dangerous area. Archie Jackson, 54, said in a recent interview that he saw the supervisor's laborers performing sensitive tasks for which they had no training, like running radiation scans on the soil pads and operating the air-monitoring machines. Another technician, Art Jahr, noticed the laborers "slinging soil around during sampling so as to create an airborne hazard," and a third, Bert Bowers, said he sometimes discovered that machines at RSY2 and other soil yards were shut down because the gasoline generators that powered them had run out of fuel.

In October 2012, during a routine quality check, the Navy noticed flaws in Tetra Tech's soil measurements taken from an area close to Building 606, about 100 yards to the southeast. Because these inconsistencies might indicate bigger problems, the Navy asked Tetra Tech to investigate what went wrong.

The resulting report, sent to the city health department and other agencies in April 2014, concluded that Tetra Tech employees had collected faulty soil samples at multiple shipyard locations. Tetra Tech blamed employee error, not fraud, and said it had fixed all problems. The Navy signed off. And the city didn't investigate further, records show.

On internal email threads, the health department's Amy Brownell downplayed the significance of the bogus soil samples. In one email, she wrote to a group of city shipyard consultants prior to a Navy conference call about the findings. "Please plan on being on mute and not asking any questions during the call," Brownell wrote to the consultants. "Navy is trying to keep this as low key as possible."

The purpose of the call, she said, was for other agencies to "get all their questions answered." She added that if the consultants had concerns about the faulty soil samples, they could discuss after the call, but "based on everything I've heard — it is just a documentation issue at this point but it is sensitive because a contractor made an error — which then got fixed later."

In another email, Brownell suggested that the effort to investigate the skewed data had been a waste of money: "your tax dollars hard at work..."

"As far as I'm concerned," Brownell wrote in the same email, "for our purposes, this issue was a contractor error that has been corrected and has no implications for future."

In a statement, department spokeswoman Kagan defended Brownell, saying she "has applied her expertise and dedication to the project for some 25 years." As for Brownell's 2014 reaction to the faulty soil samples, Kagan said, "It seemed then, based on the information we had, as though the issues were identified and being corrected."

Instead, it was only the beginning of the problem — the first loose thread in a larger unraveling. Tetra Tech remained in business at the shipyard and continued to perform radiological work next to Building 606 in 2014, digging up old storm drains and processing the soil.

By that time, Navy documents show, RSY2 had apparently closed, but Tetra Tech had built a pair of smaller soil yards a bit farther away from Building 606: RSY3 was about a fifth of a mile to the south, and RSY4 sat an eighth of a mile to the northwest.

The new yards also handled significant amounts of tainted soil. Although the health department told The Chronicle that these yards weren't a concern because

they were farther away from Building 606, the fierce wind at the shipyard has a way of compressing distance.

Throughout 2014, the health department continued to tell employees at Building 606 that they weren't at risk. On April 21, Dougherty emailed Tetra Tech and Navy officials that a pregnant woman working at the police building had "raised concerns to her management" after noticing radiation-warning signs near the building. Fetuses are particularly sensitive to radiation. The Navy looped in the health department, and Brownell offered to meet with the woman, who apparently worked at 606's crime lab.

"In the past," Brownell emailed colleagues, "I have found the crime lab personnel very receptive to understanding the science and accepting of our assurances that there are no public health risks once we're able to explain the concepts to them."

Building 606 is reflected in the window of another shipyard building. | Lea Suzuki / The Chronicle

Today, due to the lack of oversight by the city and other agencies, it's difficult to know if police in Building 606 were exposed to harmful radioactivity. The only way is to look at the cleanup data: What was in the soil, at what levels? What was in the air?

But because of questions about fraud and mismanagement, the data can't tell the story. In the past year, the Navy and EPA have said they found signs of possible fraud in soil and building measurements across much of the shipyard, including the soil yards near the police, and, according to the whistle-blowers, the company's air monitoring was flawed as well. (Tetra Tech disputes the EPA and Navy analyses.)

"It's impossible to give an answer," Bowers said.

This leaves the police who worked at Building 606 in a frustrating sort of limbo: No one can say they were definitely exposed to harm, no one can say they weren't, and it's too late to prevent any exposure. All that veterans of the building can do now, says the police union's Montoya, is research city policies on medical claims, in case more cops get sick in the future.

"There needs to be accountability on some level," Montoya said. "I don't know anybody who's looking to make money on this. People just want to know, and make sure that if somebody comes up with an illness, that they are being taken care of."

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